

Docket: 3816.10
September 16, 2005 (9:45am)

Amendments to the Claims

1. (Original) A method of joining two silicon parts, comprising plasma spraying silicon across a seam separating said two silicon parts to form a coating on adjacent surface areas of said two silicon parts.

2. (Original) The method of Claim 1, wherein the parts are subjected to atmospheric pressure during said plasma spraying.

3. (Original) The method of Claim 1, wherein portions of the parts adjacent the seam are held at a temperature of no more than 500°C.

4. (Original) The method of Claim 3, wherein said temperature is no more than 200°C.

5. (Original) The method of Claim 1, wherein said plasma spraying includes injecting silicon powder into a plasma of a gas.

6. (Original) The method of Claim 5, wherein said powder comprises particles having diameters in a range of 15 to 45µm.

7. (Original) The method of Claim 5, wherein said powder comprises particles of virgin polysilicon.

8. (Original) The method of Claim 1, wherein principal surfaces of said two parts are perpendicular to each other at said seam.

Docket: 3816.10
September 16, 2005 (9:45am)

9. (Currently amended) The method of Claim 8, wherein ~~a bevel is formed in~~ at least one of said parts is preformed with a bevel adjacent to said seam.

10. (Original) The method of Claim 9, wherein ~~another of said parts~~ a first one of the parts is preformed with said bevel and a second one of the parts does not have a bevel adjacent to said seam.

11. (Currently amended) The method of Claim 1, wherein ~~a bevel is formed in~~ at least one of said parts is preformed with a bevel adjacent to said seam.

12. (Currently amended) The method of Claim 1, wherein ~~a hole passes through~~ a first one of said parts includes a hole passing therethrough and ~~[[said]]~~ a second one of said parts is disposed within said hole and wherein said plasma spraying forms respective silicon layers contacting said first and second parts on opposite ends of said hole.

13-26. (Canceled)

27. (Previously presented) A method of joining the parts of a silicon substrate support fixture comprising (a) first and second silicon bases each having mortise holes formed therein and (b) a plurality of legs comprising silicon, having teeth cut therein for supporting a plurality of substrates in parallel relationship, and inserted into said mortise holes to form respective seams between respective pairs of said bases and said legs, said method comprising the step of plasma spraying silicon across said seams to form layers of silicon bonded to said legs and bases across said seams.

28. (Previously presented) The method of Claim 27, performed in atmospheric pressure.

29. (Previously presented) The method of Claim 27, wherein portions of the parts

Docket: 3816.10
September 16, 2005 (9:45am)

adjacent the seams during said plasma spraying are held at a temperature of no more than 500°C.

30. (Previously presented) The silicon structure of Claim 17, further comprising an adhesive bonding together said first and second silicon parts in an area of said seam.

31. (Previously presented) The fixture of Claim 21, further comprising an adhesive bonding together said bases and legs in areas of said seams.

32. (New) The method of claim 1, wherein the silicon parts are juxtaposed during the spraying step with the seam separating them and wherein the plasma spraying coats silicon onto both of the silicon parts.

33. (New) The method of claim 1, wherein prior to the plasma spraying the two parts were juxtaposed but not fixed together and after the plasma spraying the coating fixes the parts together.

34. (New) A method of joining two silicon parts, comprising:
juxtaposing the two silicon parts to form a seam separating the silicon parts; and
plasma spraying a silicon layer onto adjacent areas of the juxtaposed silicon parts and across the seam, whereby the silicon layers fixes the two silicon parts together.

35. (New) The method of claim 34, wherein the parts are subjected to atmospheric pressure during the plasma spraying.

36. (New) The method of claim 35, wherein portions of the parts adjacent the seam are held at a temperature of no more than 500°C.

37. (New) The method of claim 27, further comprising prior to the plasma spraying step

Docket: 3816.10
September 16, 2005 (9:45am)

assembling together the legs and bases, wherein the legs and bases are not fixed together at a beginning of the plasma spraying step but are fixed together at an end of the plasma spraying step.